

Figure 1A

C atg GGT cac ggc tcc aac aaA ctG ccG ggC ttt gcT acc cgC  
gcT atC cac caC ggT taT gac ccG cag gaT cac ggT ggT gca ctg  
gtT ccG ccg gtT tac cag acT gcT acT ttc acc ttc ccG acc gtT  
gaa tac ggc gct gcg tgc ttt gcT ggc gaA cag gcT ggT caC ttc  
tac TCC cgT atc tcc aac ccG acc ctG aac ctg ctg gaa gca cgT  
atg gcA tcT ctg gaa ggc ggc gaA gcT ggT ctg gcg ctg gcA tcT  
ggT atg ggC gcg atc acC tcT acC ctG tgg acC ctg ctg cgT ccG  
ggT gac gaA gtT ctg ctg ggc aac acc ctg taT ggT tgT acT ttt  
gcT ttc ctg cac cac ggT atc ggT gaA ttc ggC gtT aaA ctg cgT  
caC gtA gaT atg gct gac ctg cag gca ctg gaA gcg gcT atg acC  
ccg gcT acc cgT gtT atc taC ttc gaA tcC ccg gcT aac ccG aac  
atg cac atg gcT gaC atc gcA ggT gtT gcT aaA atC gcT cgT aag  
cac ggc gcT acc gtA gtT gtT gaT aac acc tac tgT acT ccg tac  
ctg caA cgT ccG ctg gaA ctg ggc gcT gac ctg gtT gtT caC tcC  
gcT acT aaA tac ctg TCC ggc caC ggc gac atc act gct ggc atC  
gtA gtA ggc TCC cag gca ctg gtT gac cgt atC cgt ctg caA ggT  
ctG aaA gac atg acc ggc gcT gtT ctG tcC ccG caC gac gcA gca  
ctg Ctg atg cgT ggT atc aag acc ctG aac ctg cgT atg gac cgT  
cac tgT gcT aac gct cag gtA ctg gcT gaA ttc ctG gcT cgT cag  
ccg cag gtA gaA ctg atc caC taT ccg ggc ctg gcT TCC ttc ccg  
cag tac acT ctg gcA cgT cag cag atg TCC cag ccg ggc ggT atg  
atc gcT ttc gaa ctG aag ggT ggc atc ggC gcT ggT cgT cgT ttc  
atg aac gcT ctg caG ctg ttc TCC cgT gcg gtT TCC ctg ggT gaC  
gcT gaA tcC ctg gcg cag cac ccg gca TCC atg act caC tcc TCC  
taC acT ccG gaA gaA cgt gcg caC tac ggc atc tcc gaA ggC ctg  
gtT cgT Ctg tcT gtT ggT ctg gaa gac atc gaT gaT ctg ctg gcA  
gaC gtT caG cag gcT ctG aag gcT agC gcT tga GGA TCC

Figure 1B

C atg GGT cac ggc tcc aac aaA ctG ccG ggC ttt gcT acc cgC  
gcT atC cac caC ggT taT gac ccG cag gaT cac ggT ggT gca ctg  
gtT ccG ccg gtT tac cag acT gcT acT ttc acc ttc ccG acc gtT  
gaa tac ggc gct gcg tgc ttt gcT ggc gaA cag gcT ggT caC ttc  
tac TCC cgT atc tcc aac ccG acc ctG aac ctg ctg gaa gca cgT  
atg gcA tcT ctg gaa ggc ggc gaA gcT ggT ctg gcg ctg gcA tcT  
ggT atg ggC gcg atc acC tcT acC ctG tgg acC ctg ctg cgT ccG  
ggT gac gaA gtT ctg ctg ggc aac acc ctg taT ggT tgT acT ttt  
gcT ttc ctg cac cac ggT atc ggT gaA ttc ggC gtT aaA ctg cgT  
caC gtA gaT atg gct gac ctg cag

Figure 1C

ctg caq gca ctg gaA gcg gcT atg acC ccg gcT acc cgT gtT atc  
 taC ttc gaA tcC ccg gcT aac ccG aac atg cac atg gcT gaC atc  
 gcA ggT gtT gcT aaA atC gcT cgT aag cac ggc gcT acc gtA gtT  
 gtT gaT aac acc tac tgT acT ccg tac ctg caA cgT ccG ctg gaA  
 ctg ggc gcT gac ctg gtT gtT caC tcC gcT acT aaA tac ctg TCC  
 ggc caC ggc gac atc act gct ggc atC gtA gtA ggc TCC cag gca  
 ctg gtT gac cgt atC cgt ctg caA ggT ctG aaA gac atg acc ggc  
 gcT gtT ctG tcC ccG caC gac gcA gca ctg Ctg atg cgT ggT atc  
 aag acc ctG aac ctg cgT atg gac cgT cac tgT gcT aac gct cag  
 gtA ctg gcT gaA ttc

Figure 1D

gaA ttc ctG gcT cgT cag ccg cag gtA gaA ctg atc caC taT ccg  
 ggc ctg gcT TCC ttc ccg cag tac acT ctg gcA cgT cag cag atg  
 TCC cag ccg ggc ggT atg atc gcT ttc gaa ctG aag ggT ggc atc  
 ggC gcT ggT cgT cgT ttc atg aac gcT ctg caG ctg ttc TCC cgT  
 gcg gtT TCC ctg ggT gaC gcT gaA tcC ctg gcg cag cac ccg gca  
 TCC atg act caC tcc TCC taC acT ccG gaA gaA cgt gcg caC tac  
 ggc atc tcc gaA ggC ctg gtT cgT Ctg tcT gtT ggT ctg gaa gac  
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 gcT tga GGA TCC

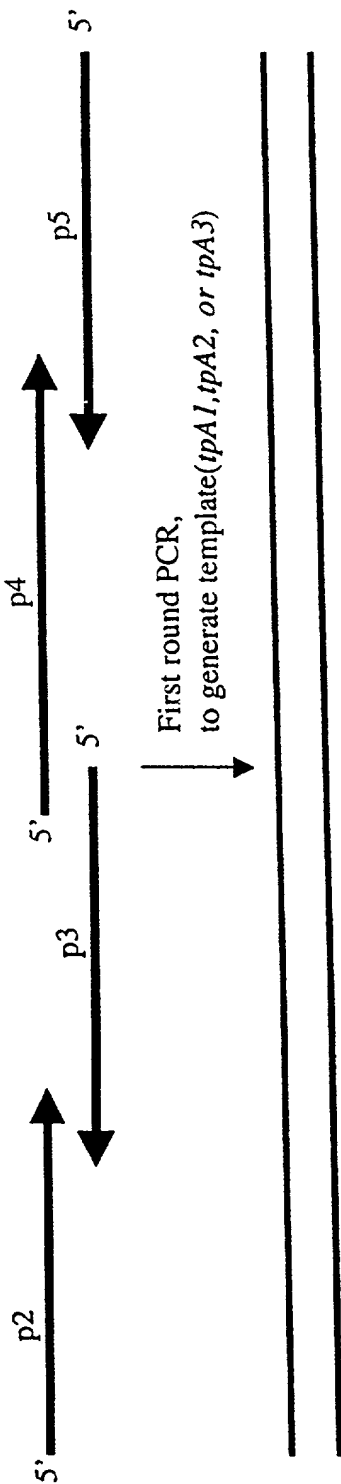


Figure 2A

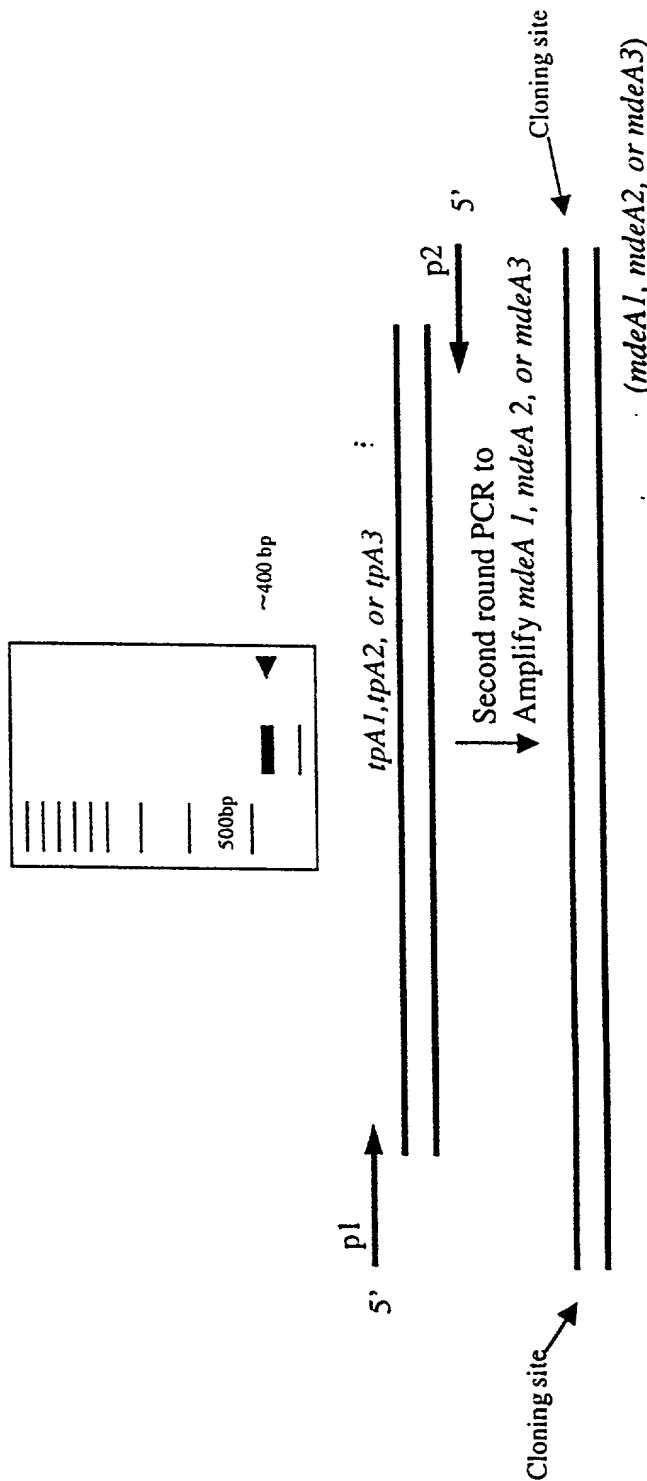


Figure 2B

- P1= mdePr1-1, mdePr2-1, or mdePr1-3
- P2= mdePr1-2, mdePr2-2, or mdePr3-2
- P3= mdePr1-3, mdePr2-3, or mdePr3-3
- P4= mdePr1-4, mdePr2-4, or mdePr3-4
- P5= mdePr1-5, mdePr2-5, or mdePr3-5
- P6= mdePr1-6, mdePr2-6, or mdePr3-6

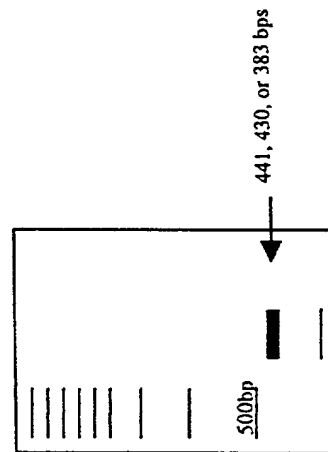




Figure 4A: THE INDUCTION OF THE SYNTHETIC *P. putida*  
METHIONINE -GAMMA-LYASE BL21/pTM

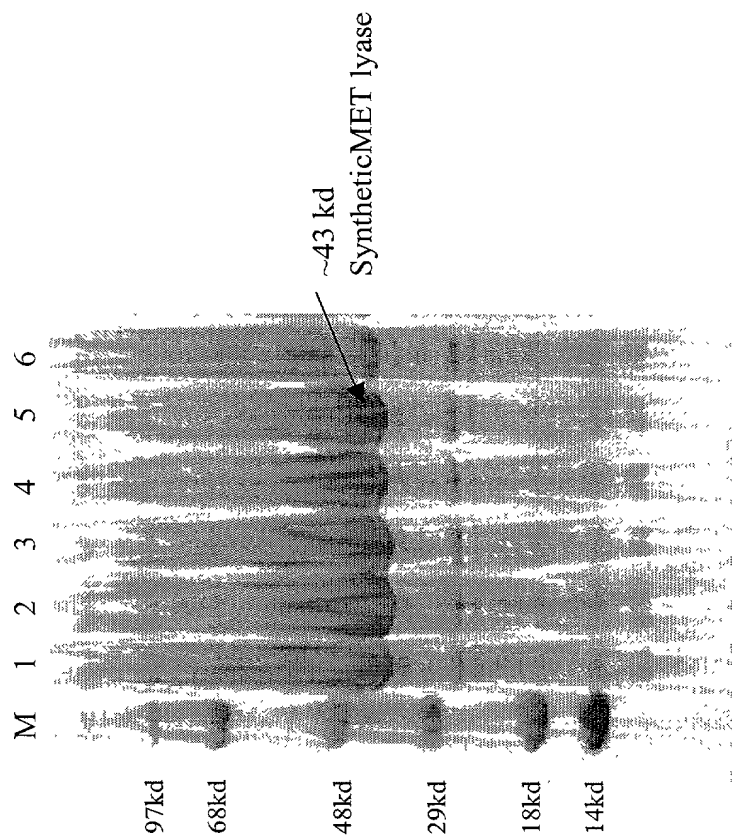


Figure 4B: The induction of native *P. putida* Methionine lyase (pSIT-mdeA)

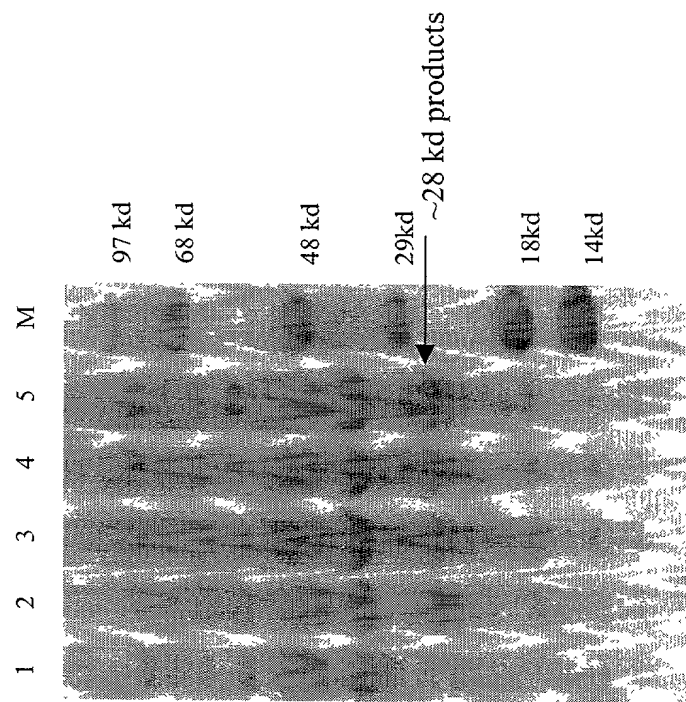
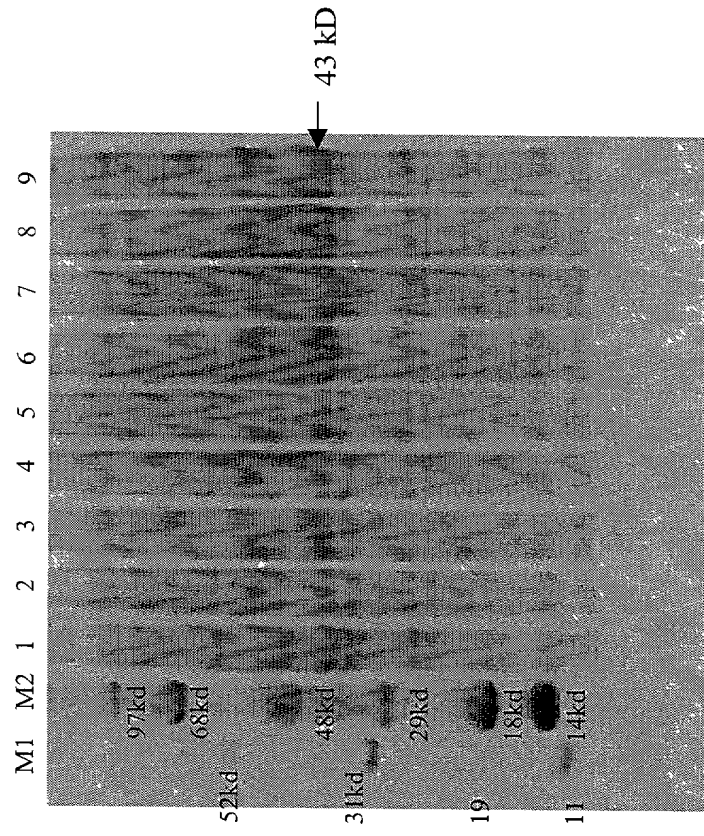


Figure 5: The Induction of the *P. putida* Naphthalene Dioxygenase and the *T. vaginalis* methionine -gamma- lyase (*mgl I*)



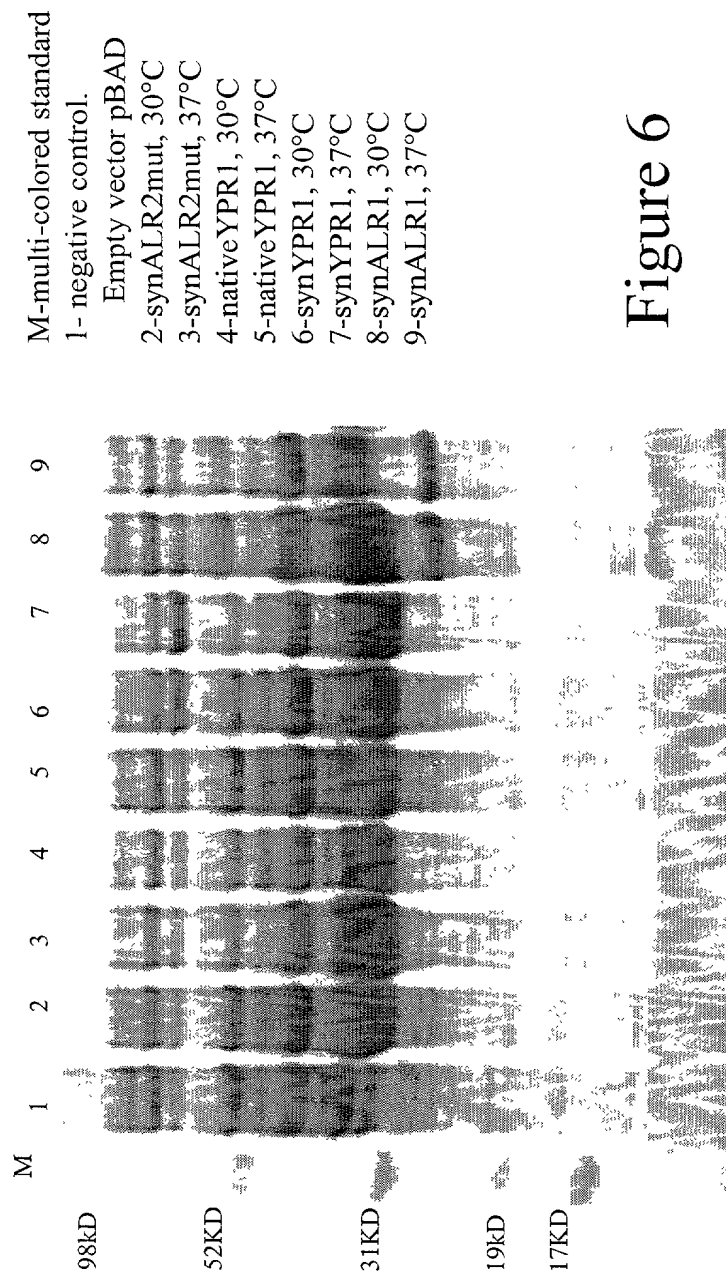


Figure 6



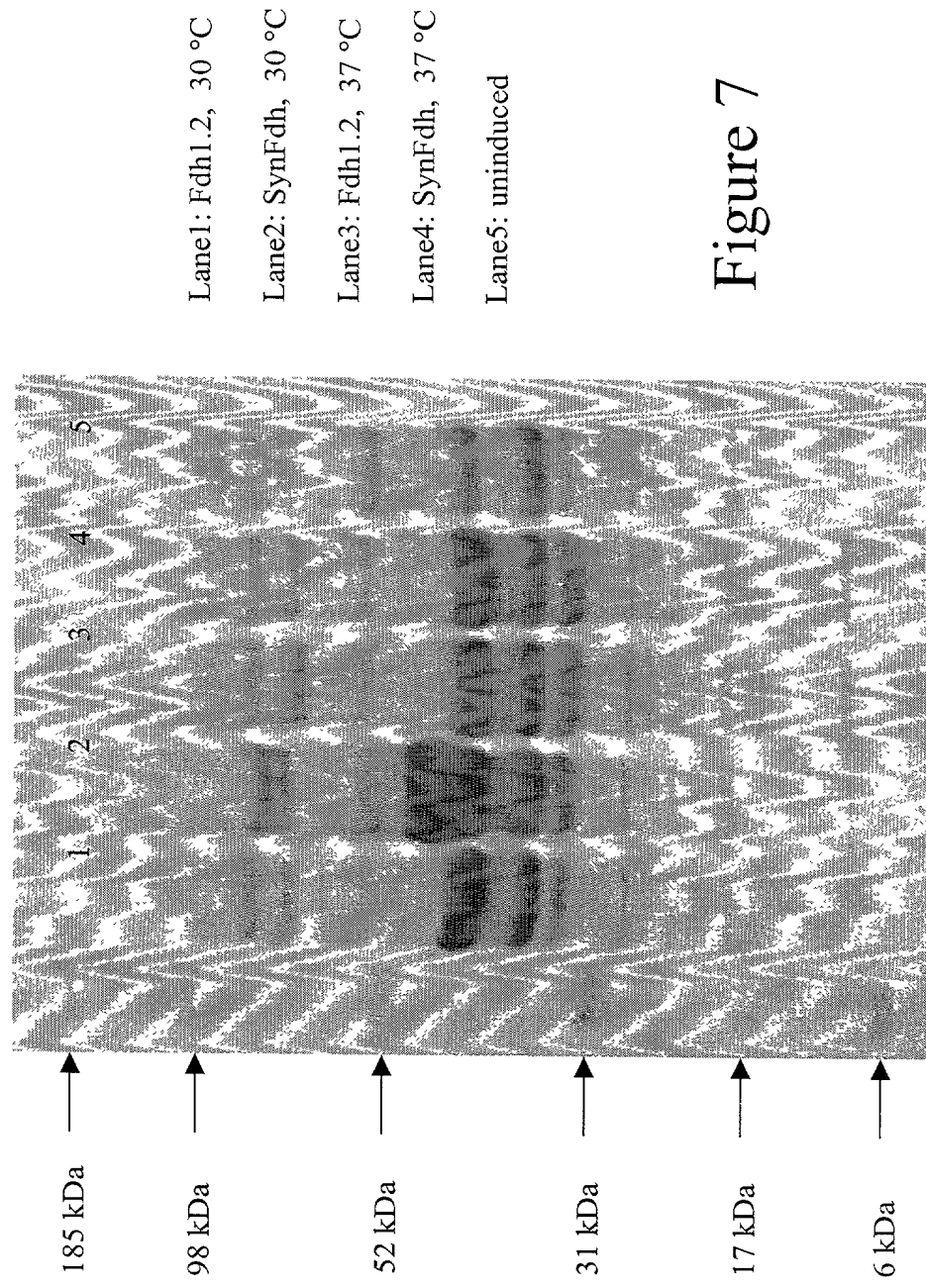
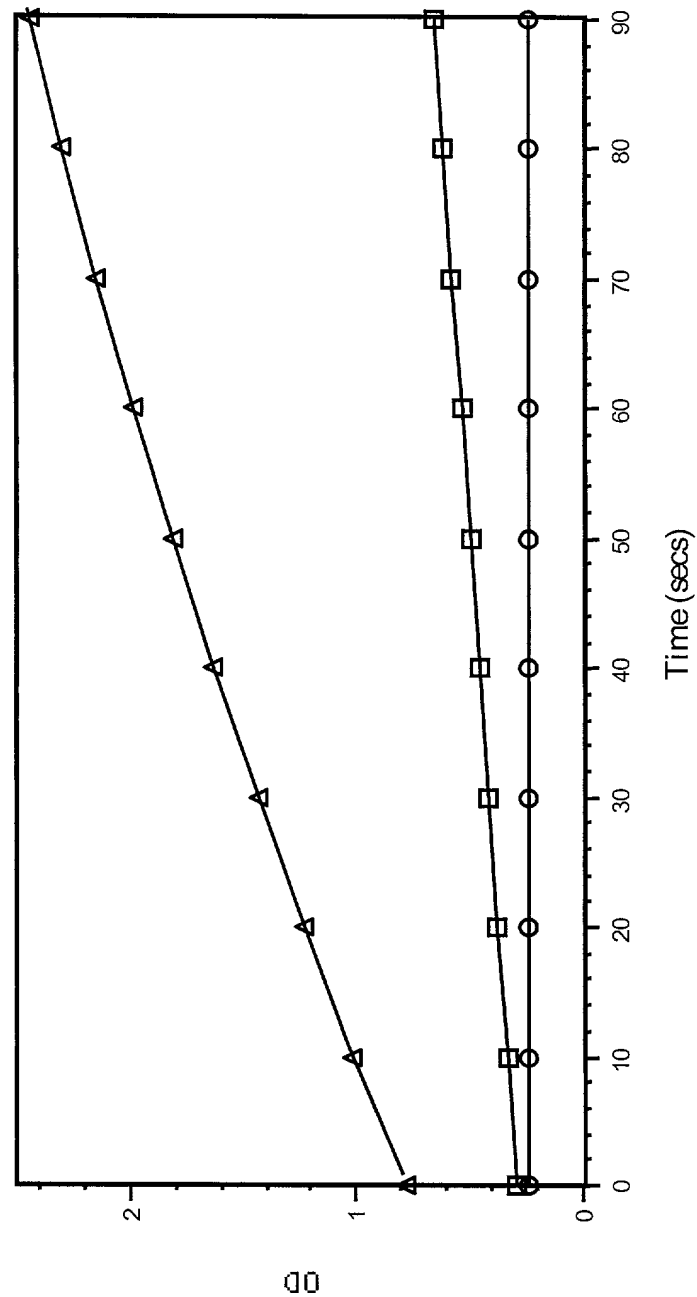


Figure 7



○ Uninduced Fdh1.2  
 □ Fdh1.2 induced with 0.2% L-arabinose at 30 °C  
 ▲ SynFdh induced with 0.2% L-arabinose at 30 °C

**Figure 8**